

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

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Listing of Claims:

Claim 1 (currently amended): A device suitable for use in an assay for the detection of

[a] at least one substance in a sample suspected of containing the same comprising:

(a) a substrate having a surface for supporting [a] at least one complement at fixed locations thereof, said surface having been contacted with said sample; to the substance to be detected;

at least one complement fixed to the surface of said substrate, each having a binding affinity for a corresponding substance which may be said at least one substance;

(b) an indicating agent signal generating means for generating a desired detectable signal at locations where a complement is bound to its corresponding substance; fluorescent signal operatively associated with the substance in the sample, whereby the binding of the substance in the sample to the complement results in the fixing of the indicating agent to the complement on the substrate in a manner wherein the detectable fluorescent signal is generated; and

(c) a protective coating affixed to the device and present during said assay and adapted for covering the sample contacted surface of said substrate, indicating agent fixed to the complement, said protective coating comprised of comprising a protective coating forming material which is impervious to the penetration of at least one gas capable of adversely affecting the signal generation of the indicating agent, signal

~~generating means and which does not generate an adverse amount of undesired signals and which is, at least substantially transparent to any excitation wavelength necessary to excite the indicating agent and is at least substantially transparent to the desired detectable signal generated by the indicating agent. signal generating means.~~

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Claim 2 (canceled without prejudice).

Claim 3 (previously presented): The device of claim 1 wherein the protective coating forming material comprises an acrylic polymer resin.

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Claim 4 (previously presented): The device of claim [2] 3 wherein the acrylic polymer resin is a copolymer of methyl acrylate and ethyl methacrylate.

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Claim 5 (previously presented): The device of claim 1 comprising a hermetic seal between the protective coating and the substrate.

Claims 6 – 16 (canceled without prejudice).

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Claim 17 (withdrawn): A composition for forming a protective coating over the surface of an assay substrate having an indicating agent capable of generating a detectable signal associated therewith, comprising a protective coating forming material, and a delivery system for delivering the protective coating forming material in an amount sufficient to coat the surface of the assay substrate, wherein the delivery system evaporates from the surface of the assay substrate to form a protective coating at least substantially composed of the protective coating forming material that is at least substantially

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transparent to the detectable signal generated by the indicating agent.

Claim 18 (withdrawn): The composition of claim 17 wherein the protective coating forming material comprises an acrylic polymer resin.

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Claim 19 (withdrawn): The composition of claim 18 wherein the acrylic polymer resin is a copolymer of methyl acrylate and ethyl methacrylate.

Claim 20 (withdrawn): A method for forming a substantially transparent protective
10 coating over the surface of an assay substrate having an indicating agent capable of generating a detectable signal associated therewith, said method comprising the steps of:

applying to the surface of the assay substrate an effective amount of the composition of claim 17 sufficient to form the protective coating and seal the indicating
15 agent from the ambient atmosphere; and

drying said composition to remove the delivery system to yield the substantially transparent protective coating.

Claim 21 (withdrawn): The method of claim 20 further comprising polishing the
20 protective coating to enhance the transparent qualities of the protective coating.

Claim 22 (withdrawn): The method of claim 20 wherein the applying step further comprises:

dipping the assay substrate in the composition of claim 17 for a sufficient time to
25 allow the composition to adhere to the surface of the assay substrate; and

withdrawing the assay substrate from the composition.

Claim 23 (withdrawn): The method of claim 22 wherein the assay substrate is dipped from about 5 seconds to 10 seconds.

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Claim 24 (withdrawn): The method of claim 20 wherein the applying step further comprises:

pipetting the composition of claim 17 in an amount sufficient to coat the surface of the assay substrate associated with the indicating agent; and

10 rocking the assay substrate from side to side for a sufficient time to evenly distribute the composition thereacross and form the protective coating.

Claim 25 (withdrawn): The method of claim 20 wherein the applying step further comprises:

15 spraying the composition of claim 17 in an amount sufficient to coat the surface of the assay substrate associated with the indicating agent; and

 rocking the assay substrate from side to side for a sufficient time to evenly distribute the composition thereacross and form the protective coating.

20 Claim 26 (withdrawn): The method of claim 21 wherein the polishing step further comprises:

 preparing a polishing solution consisting of a solvent;

 suspending the assay substrate in the polishing solution for a sufficient time to remove a layer portion of the protective coating;

25 withdrawing the assay substrate from the polishing solution;

shaking off any excess polishing solution from the assay substrate;
drying the assay substrate; and
if necessary, repeating the above steps.

- 5 Claim 27 (withdrawn): The method of claim 26 wherein the solvent is selected from the group consisting of toluene, acetone and mixtures thereof.

Claim 28 (withdrawn): The method of claim 27 wherein the solvent is a mixture containing acetone and toluene in a volumetric ratio of from about 1:2 to 1:3.

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Claim 29 (canceled without prejudice).

- 15 Claim 30 (previously presented): The device of claim 1 wherein the substrate is made from a material selected from the group consisting of glass, aminosilanes, epoxies, and poly-L-lysines.

Claim 31 (canceled without prejudice).

- 20 Claim 32 (previously presented): The device of claim 1 wherein the protective coating is impervious to ozone.

Claim 33 (previously presented): The device of claim 1 wherein the substrate is a microarray.

Claim 34 (new): The device of claim 1 wherein the signal generating means comprises an indicating agent.

Claim 35 (new): The device of claim 34 wherein the indicating agent has a binding affinity for the corresponding substance.

Claim 36 (new): The device of claim 1 wherein said at least one complement comprises a corresponding substance bound thereto.